

Appl. No. 10/782,033
Atty. Docket No. 9165
Amdt. dated 06/08/2006
Reply to Office Action of 03/08/2006
Customer No. 27752

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Page 4, line 14 delete – according to claim 38 –.

Please replace the paragraph beginning at page 1, lines 17 – 30 and page 2, lines 1 – 27, with the following amended paragraph:

The use of nonwoven sheets for dry dust-type cleaning are known in the art. Such sheets typically utilize a composite of fibers where the fibers can be thermally or adhesively bonded or bonded via entangling or other forces. See, for example, U.S. Patent No. 3,629,047 and U.S. Patent 5,144,729. The cleaning sheets can be used either for hand dusting or in combination with a cleaning implement such as the SWIFFER® cleaning implement sold by The Procter & Gamble Company or the PLEDGE GRAB-IT® cleaning implement sold by the S. C. Johnson Company. When the cleaning sheet is used with a cleaning implement, the sheet is typically mechanically attached to the mop head of the cleaning implement, via grippers located on the top surface of the mop head, such that a portion of the cleaning sheet is in contact with the floor being cleaned in order to collect and trap soils such as dust, lint, crumbs and other particles. The cleaning performance of a cleaning sheet can be defined by its “cleaning efficacy”, which relates to the capability/ability of the sheet to pickup soil in terms of amount or weight of particulates being trapped in the sheet, but also in terms of “cleaning efficiency” which relates to the surface of the sheet being actually used in comparison to the total surface of the sheet, in particular when the sheet is being used with a cleaning implement. Some cleaning implements include a mop head which has a substantially flat bottom surface such as the one described in U.S. Patent 6,305,046 to Kingry et al, issued November 23, 2001, and assigned to The Procter and Gamble Company. When a cleaning sheet is used with such a cleaning implement and then is removed from the mop head, it can be observed that dust and particles tend to accumulate in the portions of the sheet which were adjacent to the front and back leading edges of the mop head, leaving the middle portion of the sheet substantially unused. Several attempts have been made to increase the “cleaning efficiency” of the mopping operation by changing the flat bottom surface of the implement to expose more of the cleaning sheet. For example, in order to increase the leading edge surface area between a cleaning sheet and the floor surface, a mop head is provided with a “crowned” or curved bottom surface allowing the mop head “to rock or

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tilt forward and backward" during the mopping operation and, as a result, to enable a greater portion of the sheet to be in contact with soil on the floor surface. An example of such a cleaning implement having a mop head with a crowned bottom surface is described in U.S. Patent ~~Application serial~~ Publication No. ~~09/788,761~~ 2002/0050016A1 to Willman et al., ~~filed February 24, 2000~~ published May 2, 2002, and assigned to The Procter & Gamble Company. In addition, the bottom surface of the cleaning implement can also have a three-dimensional texture in order to increase the open area between the contact surface of the cleaning sheet against the floor surface also described in U.S. Patent ~~Application serial~~ Publication No. ~~09/788,761~~ 2002/0050016A1, ~~filed February 24, 2000~~ published May 2, 2002, to Willman et al. Another solution to improve the mopping operation and increase the "cleaning efficacy" of a cleaning sheet is to include an additive to the cleaning sheet such as the ones described in U.S. Patent ~~Application serial~~ No. ~~09/082,349~~ 6,645,604 to Fereshtekhou et al., ~~filed May 20, 1998~~ issued November 11, 2003, and assigned to The Procter & Gamble Company, in order to enhance the pick-up and retention of soils. Another solution to increase the "cleaning efficacy" of the cleaning sheet is to create of three-dimensional texture on both surfaces of the cleaning sheet. U.S. Patent ~~Application serial~~ No. ~~09/082,396~~ 6,561,354 to Fereshtekhou et al., ~~filed May 20, 1998~~ issued May 13, 2003, and assigned to The Procter & Gamble Company discloses such cleaning sheets having a three-dimensional texture.

Please replace the paragraph beginning at page 7, lines 15 – 29, with the following amended paragraph:

Modern cleaning sheets can have a three-dimensional texture or pattern on at least one of their outer surfaces in order to increase the cleaning sheet's open surface area available between the cleaning sheet and the hard surface. One suitable method to create texture on a cleaning sheet is disclosed in U.S. Patent ~~Application serial~~ No. ~~09/082,396~~ 6,561,354 to Fereshtekhou et al., issued May 13, 2003 where a fibrous layer of polyester can be hydroentangled with a scrim made of polypropylene and is then heated. The heat applied to the sheet causes the scrim to shrink thereby creating a three-dimensional macroscopic texture, which is random in nature, on at least one of the outer surfaces of the sheet. However, it has been observed that if these cleaning sheets were compressed to be packaged, or simply when the cleaning sheets are being used with a cleaning implement, these sheets tend to flatten and do not adequately produce or generate sufficient macroscopic three-dimensional texture for cleaning the asperities. These sheets also do not have sufficient overall thickness/bulk to clean soils lodged in crevices, grout lines, etc.

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Consequently, these sheets lose part of the benefits provided by their three-dimensional textured outer surfaces. In addition, it is believed that the random pattern/texture obtained on the cleaning sheet does not allow the sheet to contact with the dust/particles optimally.

Please replace the paragraph beginning at page 2, lines 26 – 33 and page 23, lines 1 – 18, with the following amended paragraph:

A first layer of carded web having a basis weight of about 26.5 g/m^2 and comprising polyester staple fibers having the following characteristics, 37 mm length and 1.5 dpf (available from Wellman, Inc. as Type 203 fibers) is applied on a layer of a polypropylene spunbond web having a basis weight of about 15 g/m^2 . These two layers are then subjected to hydroentangling in order to form a dual layer web. The resulting dual layer web is then dried to form a precursor web. A second layer of carded web having a basis weight of about 26.5 g/m^2 and comprising polyester staple fibers having the following characteristics, 37 mm length and 1.5 dpf (available from Wellman Fiber as Type 203 fibers) is then applied on the precursor web such that the spunbond web layer is "sandwiched" between the first and second layers of carded web and again subjected to hydroentangling. The resulting tri-laminate web 70, which has a total basis weight of about 68 g/m^2 , is then further subjected to hydraulic imaging/patterning by an imaging device 75 as described in U.S. Patent 6,502,288 to Black et al., issued January 7, 2003, U.S. Patent ~~application serial~~ No. ~~US20030019088~~ 6,725,512, to Carter, issued April 27, 2004, International ~~patent application serial~~ Publication No. WO 02/46509, to Black et al., published June 13, 2002, and International ~~patent application serial~~ Publication No. WO 02/058006, to Carter et al., published July 25, 2002, all assigned to Polymer Group Inc. This imaging device 75 comprises an imaging/patterning drum 175. The imaging device comprises a moveable imaging surface which can move relative to a plurality of entangling manifolds 275 which act in cooperation with three-dimensional cavities defined by the imaging surface of the image transfer device 75 to effect imaging and patterning to the tri-laminate. A top view of the imaging surface of the drum 175 used to "create" the previously described pillow members, is represented in Fig. 28. The imaging surface of the drum 175 comprises a plurality of cavities 1175 which include drain holes 2175 at the bottom surface to evacuate water of the hydroentanglement process. One skilled in the art

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will understand that the Lp, Wp, Dt, Dpx and Dpy dimensions of the pillow members obtained on the cleaning sheet are substantially the same as the corresponding Lp, Wp, Dt, Dpx and Dpy dimensions of the cavities (or "images") seen from the top surface of the drum 175.

Please replace the paragraph beginning at page 33, lines 23 – 26, with the following amended paragraph:

Non-limiting examples of suitable additives are described in U.S. Patent ~~Application serial Patent No. 09/082,349~~ 6,561,334 to Fereshtehkhou et al., ~~filed May 20, 1998~~ issued May 13, 2003, and assigned to The Procter & Gamble Company and in copending U.S. provisional patent application serial number 60/448,745 to Policicchio et al., filed February 20, 2003, and assigned to the Procter & Gamble Company.

Please replace the paragraph beginning at page 33, lines 32 – 36 and page 34, lines 1 – 3, with the following amended paragraph:

Fig. 39 shows a cleaning tool 90 which comprises a handle 190 and preferably includes a mop head 290 rotatably connected the handle 190. An example of cleaning tool is described in U.S. ~~Patent Application serial Publication No. 09/788,761~~ 2002/0050016A1 to Willman et al., ~~filed February 24, 2000~~ published May 2, 2002, and assigned to The Procter & Gamble Company. The mop head can have any shape or size and includes attachment structures 1190 for retaining a cleaning sheet about the mop head as described in U.S. patent 6,305,046 to Kingry et al., issued October 23, 2001, and assigned to The Procter and Gamble Company, but one skilled in the art will understand that any other kind of retaining means can be used to retain a cleaning sheet and provide the same benefits.

Please replace the paragraph beginning at page 34, lines 4 – 6, with the following amended paragraph:

Another suitable type of cleaning tool is disclosed in International Patent ~~Application~~ Publication No. WO 02/34101 to Tanaka, published May 2, 2002, and assigned to the Uni-Charm Corporation which comprises a mop body which is removably attachable to a handle.